

Notice of Allowability

Application No.

10/505,224

Examiner

Dan Washburn

Applicant(s)

TESHIMA ET AL.

Art Unit

2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/13/07.
2. ☒ The allowed claim(s) is/are 1, 4, 6, 8 and 10-23.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date See Continuation Sheet
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20070817.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Continuation of Attachment(s) 3. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date: 3/7/07 5/24/07 7/25/07.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment to the claims was given in a telephone interview with Wesley Ashton on Friday, August 17, 2007. See the examiner-initiated interview summary for a written summary of the substance of the interview.

The application has been amended as follows:

Claim 7: Please cancel claim 7.

Claim 9: Please cancel claim 9.

Authorization for this examiner's amendment to the specification was given in a telephone interview with Joerg-Uwe Szipl on August 22, 2007 at 10 am. In the interview Examiner Washburn discussed that the brief description of the drawings didn't include a brief description of Figure 16d. Attorney Szipl authorized an examiner's amendment to describe that Figure 16d is a view showing a three-dimensional version of Figure 4f, which has support on lines 2 and 3 of page 35 of the applicant's specification.

The application has been amended as follows:

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Please amend page 15 of the specification as follows:

FIG. 15 is a view showing an example in which no cell division is made even if a closed loop is established;

FIG. 16a to 16c are views showing examples in which 2- or 3-division of cells can be made depending on a way of triangular division which uses a closed loop as an edge even if the closed loop is formed;

Figure 16d is a view showing a three-dimensional version of Figure 4f;

FIG. 17 is a view showing an example in which 2- division of cells is made even if not all cutting points can be connected by one closed loop;

...

REASONS FOR ALLOWANCE

Claims 1, 4, 6, 8, and 10-23 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art does not describe the method or computer readable medium described in independent claims 1, 8, and 10-15.

The closest prior art, non-patent literature, "Constructing Isosurfaces from CT data", by Ake Wallin, describes a cutting point deciding step, a boundary deciding step, a cell classification step, a boundary cell data classification step, and outputting the cell inner shape data to a display (see the non-final rejection of claims 1 and 8 for the complete discussion), but Wallin doesn't describe that the cells are rectangular cells in a

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two-dimensional representation and in the cutting point deciding step the intersection points of boundary data and cell edges that have 16 arrangement cases are decided as the cell edge cutting points, and the arrangement cases that become equivalence classes by rotational operation are decided as identical patterns so that the 16 arrangement cases are further classified into 6 patterns, as is described in claims 1, 8, 10, and 11, or that the cells are rectangular parallelepiped cells and in the cutting point deciding step intersection points of boundary data and cell edges that have totally 4096 arrangement cases are decided as the cell edge cutting points, and the arrangement cases that become equivalence classes by rotational operation and mirroring operation are decided as identical patterns so that the 4096 arrangement cases are further classified into 144 patterns, as is described in claims 12-15.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Washburn whose telephone number is (571) 272-5551. The examiner can normally be reached on Monday through Friday 8:30 a.m. to 5:00 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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8/17/07


ULKA CHAUHAN
SUPERVISORY PATENT EXAMINER